

REMARKS

Claims 1-6, 10-22, and 26-32 are presently pending in the application. Claim 32 has been amended to correct minor typographical errors. No new matter has been added and support for the amendments to the claims can be found in the specification and drawings. In view of the argument hereinbelow, Applicants respectfully submit that this application is now in condition for allowance.

Claim Rejections – 35 U.S.C. § 102(e)

Claims 1-6, 10-22 and 26-32 presently stand rejected as being anticipated by Robinson et al. U.S. Patent No. 6,404,520 (“Robinson”). Applicants respectfully traverse this rejection and submit that Robinson fails to disclose or suggest the claimed invention.

At the outset, Applicants wish to point out that they distinguished Robinson from the present invention in the Preliminary Amendment filed on April 8, 2004. It appears that the Examiner has, maybe inadvertently, ignored Applicants’ arguments set forth in the Preliminary Amendment as there is nothing in the present Office Action that evidences consideration of the same. The Section 102(e) rejection in the present Office Action is identical to that contained in the last action from the Patent Office in connection with the parent application (U.S. Serial No.: 09/727,954). Accordingly, Applicants are reiterating those arguments here and supplementing them with additional distinguishing comments.

As set forth in representative claim 1, an aspect of the present invention provides an optical communication system that compensates for polarization mode dispersion (PMD), comprising:

an optical source that transmits two or more optical signals having different optical frequency bands; and

a first optical compensator that receives the two or more optical signals *and rotates at least one polarization state of the two or more optical signals based on an error condition to compensate for PMD*. Emphasis added.

The Examiner contends that “Robinson et al., in Fig. 3 show[s, sic] an optical communication system that compensates for polarization mode dispersion

(PMD) comprising an optical source (24, also note column 4, lines 62-66); a first optical compensator (32); and a receiver (40). Thus, claims 1-2 and 17 are rejected.” Office Action at page 2, ¶2. Applicants respectfully submit that this assertion is without merit.

Robinson discloses a method and apparatus “for providing fault management in an optical communications system by correlating observations from PMD compensators with indicators from at least one, and preferably a plurality, of other devices.” See Col. 3, lines 61 – 64. Robinson, however, fails to disclose, suggest or mention anything about rotating “at least one polarization state of the two or more optical signals *based on an error condition* to compensate for PMD.” Robinson describes monitoring the bit error rate (BER) of an optical signal, but such BER is not used to *vary* the rotation of the polarization states of the optical signal to compensate for PMD as claimed in the present invention.

Although Robinson discloses a system including a PMD compensator (PMDC 32), there is no discussion of how the PMDC 32 compensates for PMD. Robinson merely teaches that the PMDC 32 is coupled to a controller 22 that receives the “bit error rate (BER) observed at the receiver, the Q measurement obtained at the receiver, alarms or notifications from the PMD compensator along the optical path, and the optical signal-to-noise ratio as measured by the selective optical power meter tapped onto the path near the receiver.” See Col. 6, lines 40 – 45. The controller 22 will indicate a potential fiber failure based on these inputs when certain conditions are met as discussed at Col. 6, line 47 et seq. The controller 22, however, *does not direct the PMDC 32 to vary the amount of PMD compensation*. Neither does the PMDC 32 undertake any action to change the rotation of the polarization state *as a function of an error condition*. The specification of Robinson states:

As the polarization characteristics of the fiber change, the PMDC 32 constantly monitors the optical signal and *adjusts the delay to minimize the PMD contribution to overall dispersion*. PMDC 32 also provides several PMD notifications to controller 22 on output line 34, as will be discussed further shortly. Col. 5, lines 13 – 19. Emphasis added.

Thus, the PMDC adjusts the PMD to minimize the PMD contribution, but there is no explanation as to how this is accomplished. There is certainly no suggestion of utilizing feedback from the detected BER to make adjustments to the level of PMD compensation.

With respect to the detected BER in Robinson, such measurement is provided as input to the controller 22 and constitutes one of the parameters utilized to manage faults in the system. There is no teaching, suggestion or mention of using the BER to adjust the PMD in the manner claimed by Applicants. Accordingly, the fact that the controller 22 communicates with a polarization mode dispersion compensator and an error counter 84 is irrelevant to the claimed subject matter.

Applicants have carefully studied Robinson and submit that there is nothing in this reference that discloses, suggests, or mentions anything about rotating the polarization state of two or more optical signals *based on* an error condition to compensate for PMD. This limitation is also present in independent claim 17. In view of the foregoing, it is respectfully submitted that independent claims 1 and 17 and those claims dependent on claims 1 and 17 are patentable over Robinson.

Double Patenting

Claims 1-2, 7-9, 17-18 and 23-25 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,768,875 ("the '875 Patent"). In response, Applicants are submitting herewith a Terminal Disclaimer of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term of the '875 Patent.


In view of the foregoing, Applicants respectfully submit that claims 1-6, 10-22 and 26-32 are patentable over the cited art and allowance of these claims at an early date is solicited.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. 1.16 or 1.17 to AT&T Corp. Account No. 01-

2745. The Examiner is invited to contact the undersigned at (908) 707-1573 to discuss any matter concerning this application.

Respectfully submitted,
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By:

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